

## **Report accompanying the Forest proposals of Palamuru Rangareddy Lift Irrigation Scheme from Foreshore of Srisailem Reservoir to K.P. Lakshmidhevipalli Reservoir (Packages – I, II & IV)**

**1.1 Introduction:** Palamuru - Ranga Reddy Lift Irrigation Scheme envisages to irrigate upland areas of erstwhile Mahabubnagar, Rangareddy and Nalgonda districts for an ayacut of 4,04,858 ha, drinking water to villages enroute and Hyderabad city and water to industrial use in Mahabubnagar, Rangareddy and Nalgonda districts, by lifting 90 TMC of flood water in 60 days ( i.e., 1.50 TMC per day) during flood season from foreshore of Srisailem reservoir located at Yellur (V), Kollapur (M) in Mahabubnagar district to K.P. Laxmidhevipally (V), Kondurg (M) in Mahabubnagar District which is the highest elevation in Mahabubnagar and Rangareddy districts with 5 stage lifting and then utilizing water by gravity. The scheme contemplates enroute in the project starting from foreshore of Srisailem Reservoir and ending with K.P.Laxmidhevipally Reservoir.

### **1.2 Scope of the Scheme:**

- To provide Irrigation facilities for an ayacut of 4, 04,858 ha in Drought prone areas in Mahabubnagar, Rangareddy and Nalgonda districts of Telangana State.
- To provide drinking water facilities to enroute villages, Hyderabad and Industrial water requirement in Mahabubnagar, Rangareddy and Nalgonda districts of Telangana State.
- The administrative approval for the project was sanctioned for Rs.35,200 Crores vide G.O.Ms.No. 105, Dt: 10-06-2015.

### **1.3 Water Conveyor System:**

The Palamuru-Rangareddy Lift Irrigation Scheme envisages to lift water in five stages through pumping from foreshore of **Srisailem Project (+240 M CBL)** near Yellur (V), Kollapur (M) of Mahabubnagar district to the proposed **K.P. Laxmidhevipally Reservoir (+670 M)** near K.P. Laxmidhevipally(V), Kondurg(M), Mahabubnagar District.

The five stage pumping details are as follows.

**1st Lift** –An approach channel takes off from the foreshore of Srisailem Project near yellur (V), Kollapur (M). The water is drawn through tunnel connected to it and lifted to fill the proposed Anjanagiri reservoir at Narlapur village.

**2nd Lift** –An approach channel takes off from Anjanagiri reservoir. The water is drawn through the canal and tunnel connected to it and lifted to fill the proposed Sri Veera Anjaneya Reservoir at Yedula.

**3rd Lift** –An approach channel takes off from Sri Veera Anjaneya Reservoir. The water is drawn through the canal and tunnel connected to it and lifted to fill the proposed Venkatadri Reservoir at Vatterem village and Kurumarthiraya Reservoir at Karvena village by linking both reservoirs with gravity canal from Venkatadri Reservoir.

**4th Lift** –An approach channel takes off from Kurumarthiraya Reservoir. The water is drawn through the canal and tunnel connected to it and lifted to fill the proposed Udandapur Reservoir.

**5th Lift** –An approach channel takes off from Udandapur Reservoir. The water is drawn through canal and tunnel connected to it and lifted to fill the proposed K.P.Lakshmidhevally reservoir.

The package wise details of the Palamuru Rangareddy Lift Irrigation Scheme from fore shore of Srisailem Reservoir to K.P. Lakshmidhevally Reservoir is as follows

Package No.	Description of Work
<b>PHASE -I OF PRLIS</b>	
Pkg-1	Lift - I Pumping Station – Narlapur (V)
Pkg-2	Anjanagiri Reservoir –Narlapur (V)
Pkg-3	Open Canal from Anjanagiri Reservoir to VeeraAnjaneya Reservoir
Pkg-4	Tunnel from Anjanagiri Reservoir to VeeraAnjaneya Reservoir
Pkg-5	Lift - II Pumping Station –Yedula (V)
Pkg-6	VeeraAnjaneya Reservoir - Yedula (V)
	Open Canal from VeeraAnjaneya Reservoir to Venkatadri Reservoir
Pkg-7	Tunnel from Veeranjaneya Reservoir to Venkatadri Reservoir
Pkg-8	Lift - III Pumping Station –Vatterem (V)
Pkg-9 Pkg-10 Pkg-11	Venkatadri Reservoir - Vatterem (V)
Pkg-12	Open Canal from Venkatadri Reservoir to Kurumurthiraya Reservoir
Pkg-13 Pkg-14 Pkg-15	Kurumurthiraya Reservoir
Pkg-16	Open Canal from Kurumurthiraya Reservoir to Udandapur Reservoir
	Tunnel from Kurumurthiraya Reservoir to Udandapur Reservoir
	Lift - IV Pumping Station - Udandapur
Pkg-17 Pkg-18	Udandapur Reservoir - Udandapur

PHASE -II OF PRLIS	
1	Canal from Udandapur to K.P Lakshmidivally
2	Tunnel from Udandapur to K.P Lakshmidivally
3	K.P. Lakshmidivally Reservoir
4	Mains Canals & Distributory Network of Project

#### 1.4 Salient Features of the Scheme:

- Source of the project : Foreshore of SRISAILAM RESERVOIR
- Location : Near Yellur village, Kollapur Mandal, Mahabubnagar Dist. Telangana State
- Latitude : 16° 06' 04" N
- Longitude : 78° 23' 59" E

#### DETAILS OF OPEN CANALS & TUNNELS

Sl.No.	Lift	Open Canal Length	Tunnel Length	Tunnel Dia.	Discharge
1	Lift-1	2.056 Km.	0.876 Km	3 x 10.00 m.	656 Cumecs
2	Lift-2	5.675 Km	16.005 Km	2 x 11.50 m.	656 Cumecs
3	Lift-3	3.100 Km.	22.000 Km	2 x 11.50 m.	656 Cumecs
4	Lift-4	9.750 Km.	8.845 Km	2 x 8.50 m	377 Cumecs
5	Lift-5	18.800 Km	14.400 Km	8.00 m	161 Cumecs

#### DETAILS OF LIFTS

Sl.No	Lift	Lift Height	Pumps & Ratings	Pump capacity
1	Lift-1	101 m	8 x 145 MW	85 Cumecs
2	Lift-2	124 m	9 X 145 MW	75 Cumecs
3	Lift-3	121 m	9 X 145 MW	75 Cumecs
4	Lift-4	126 m	5 X 145 MW	75 Cumecs
5	Lift-5	72 m	3 X 75 MW	55 Cumecs

## DETAILS OF RESERVOIRS

Sl. No.	Name of Reservoir	Place	F.R.L	Capacity	Ayacut in Ha.
1	Anjanagiri Reservoir	Narlapur village	345.000 m	8.51 TMC	-
2	Veeranjaneya Reservoir	Yedula Village	445.000 m	6.55 TMC	-
3	Venkatadri Reservoir	Vattem village	542.000 m	16.74 TMC	52239
4	Kurumurthiyraya Reservoir	Karivena Village	531.000 m	17.34 TMC	80972
5	Udandapur Reservoir	Udandapur Village	629.000 m	15.91 TMC	197571
6	K.P Lakshmidhevipally Reservoir	Lakshmidhevipally village	670.000 m	2.80 TMC	74076
				<b>67.85 TMC</b>	<b>4,04,858</b>

**1.5 Project Cost Estimate:** Rs.35,200 Crores

**1.6 Districts Benefited:** Mahabubnagar, Rangareddy and Nalgonda.

It is proposed to irrigate 4,04,858 Ha in Mahabubnagar, Rangareddy, and Nalgonda districts of Telangana state.

The district wise mandals, villages and ayacut covered under the scheme are as follows:

Sl No	District	No of Mandals covered, Nos	No of villages covered, Nos	Total Ayacut covered, Ha
1	Mahabubnagar	37	718	2,83,400
2	Rangareddy	24	400	1,09,312
3	Nalgonda	5	13	12,146
<b>Total:</b>		<b>66</b>	<b>1131</b>	<b>4,04,858</b>

## 1.7 Project Rationale:

The State receives its rainfall both from the southwest and the northeast monsoons. The southwest monsoon generally starts from early June and lasts until about the end of September. The northeast monsoon occurs from October to December.

There was general emphasis on gravity (flow canal) irrigation according to the command ability ground levels. However, large commendable area exists in the middle reaches of Krishna covering uplands of Telangana Region spread over the Mahabubnagardistrict. Most of this area is backward and drought-prone area as there is no permanent irrigation facilities even though there is adequate rainfall. These rainfalls are

adequate, most of them are erratic, untimely thereby un useful to the crops especially during the crop-critical period thereby leaving the agriculture to the vagaries of nature.

Most of the command area now proposed under this project is not covered by the medium and minor irrigation schemes in that vicinity. These command areas, even though fertile, are mostly upland areas which cannot be served by gravity. Hence, in order to provide dependable and permanent irrigation facilities, the only alternative left is to lift the water in stages near the vicinity of various patches of command areas.

The transfer of water through lift schemes and conveying it to water deficient, upland regions of Mahabubnagar, Rangareddy and Nalgonda Districts is thus of strategic importance and a pressing need toward a more equitable development of water resources for irrigation and other water requirements. The proposed Project is intended to meet the demands of water starved mandals of the Mahabubnagar, Rangareddy and Nalgonda Districts, which was excluded from canal irrigation earlier due to topographic constraint and has remained poor in comparison to its neighboring areas that were provided with irrigation.

#### **1.8 Status of Works:**

- The works of Project up to Udandapur Reservoir are divided into 18 Packages and works are in progress in Non-Forest Area.

#### **1.9 Environmental & Forest Aspects:**

- The Forest proposals are prepared and under submission.
- An Application for TOR has been uploaded and the Environmental Clearance shall be obtained from MOEF, New Delhi.

#### **1.10 Land required for the Entire Project:**

The composite water conveyor system requires total land of about 24,008 Ha for Packages I to XVIII.

Package No.	Description of Work	Non-Forest Area in Acres	Forest Area in Acres
<b>PHASE -I OF PRLIS</b>			
Pkg-1	Lift - I Pumping Station - Narlapur	141.61	7.537
Pkg-2	Anjanagiri Reservoir - Narlapur	1907.42	557.20
Pkg-3	Open Canal from Anjanagiri Reservoir to VeeraAnjaneya Reservoir	435.49	--
Pkg-4	Tunnel from Anjanagiri Reservoir to VeeraAnjaneya Reservoir	338.27	1.20
Pkg-5	Lift - II Pumping Station -Yedula	337.86	
Pkg-6	VeeraAnjaneya Reservoir - Yedula	5110.25	
	Open Canal from VeeraAnjaneya		

	Reservoir to Venkatadri Reservoir		
Pkg-7	Tunnel from Veeranjaneya Reservoir to Venkatadri Reservoir	485.66	
Pkg-8	Lift - III Pumping Station - Vатtem	322.88	
Pkg-9 Pkg-10 Pkg-11	Venkatadri Reservoir - Vатtem	4245.97	
Pkg-12	Open Canal from Venkatadri Reservoir to Kurumurthiraya Reservoir	685.04	
Pkg-13 Pkg-14 Pkg-15	Kurumurthiraya Reservoir	6668.80	
Pkg-16	Open Canal from Kurumurthiraya Reservoir to Udandapur Reservoir	307.81	
	Tunnel from Kurumurthiraya Reservoir to Udandapur Reservoir		
	Lift - IV Pumping Station - Udandapur		
Pkg-17 Pkg-18	Udandapur Reservoir - Udandapur	5359.65	
<b>PHASE -II OF PRLIS</b>			
1	Canal and Tunnel from Udandapur to K.P Lakshmidvipally	1046.00	
2	K.P. Lakshmidvipally Reservoir	1340.00	
3	Main Canals & Distributory Network	30000.00	
	<b>TOTAL in Acres</b>	<b>58733.063</b>	<b>565.937</b>
	<b>TOTAL in Ha.</b>	<b>23778.96</b>	<b>229.0361</b>

**a) Forest division-wise requirement of forest lands:**

Many alternative alignments for water conveyer system are worked out in order to minimize the involvement of forest land. The present proposal is finalized with a minimum total diversion of forest land of about **229.0361 Ha** out of total land of 24,008Ha to be acquired for this project which works out to **0.95%**.

**Details are as follows:**

RF	Compt. No's	Area in Ha	Purpose
Kollapur	444	3.050	Construction of Lift-I Under Ground Pump house Tunnel.
	443 and 444	225.497	Formation of Anjanagiri Reservoir.
Pasupala	474	0.4891	Construction of tunnel in between Anajanagiri Reservoir and Veeranjaneya Reservoir.

	<b>Total</b>	<b>229.0361</b>	
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### **1.11 Proposal for diversion of forest land under F(c)Act,1980 and W(P)Act,1972:**

After working out various alternative Alignments, the diversion of forest land to the minimum requirement is worked out as per the hydraulic parameters and extent of forest land required is as follows:

As per the provision of the Forest (Conservation) Act, 1980 and the Rules, Guidelines, Circulars issued therein, the user agency who wants to use any forest land for non-forest purpose, the proposals shall be submitted for the entire project in totality to the concerned Nodal officer authorized by the State Government i.e., Principal Chief Conservator of Forests, Hyderabad, Telangana. The total requirement for diversion of forest land is about **229.0361 Ha** spreading over Achampet divisional forest units and in three packages. The diversion of forest land proposals as per the F(C) Act, 1980 shall be prepared duly marking the alignments of the tunnels and reservoir on the relevant forest maps in booklets.

#### **a. Mapping of the forest areas proposed for diversion:**

The ETS/ DGPS/ GNSS Survey for the forest areas proposed for diversion has been carried out and the data was submitted to the Forest Department. The same were authenticated by the Forest Department. The lengths of the alignment and the extent of the forest area involved is estimated as per the ETS/ DGPS/ GNSS Survey data by ascertaining the entry & exit points of alignment with RF, as furnished in the above table.

The alignment of the water conveyor system is marked on the topo sheet of 1:50000 scale. The alignment is also marked in the field with boundary stones. The actual involvement of forest land and its extent is ascertained after joint field inspection with forest authorities.

**Forest Land involved in Achampet Division:** The Forest land is covered in **Packages I, II & IV** and the water conveyor system passing through notified forests consists of the following components:

Forest Division	Forest Range	R.F	Package No.	Area Involved
				in ha
Achampet	Kollapur	Kollapur	I	3.050
			II	225.497
	Lingal	Pasupala	IV	0.4891
<b>Total</b>				<b>229.0361</b>


- b. **Details of non-forest CA lands:** The details of the non-forest CA lands identified, ETS & DGPS/ GNSS Surveyed by I&CADD authenticated by Forest Department, accepted by Forest Department after inspection of the lands are as follows:


COMPENSATORY AFFORESTATION LAND FOR PALAMURU LIS				
S.No	VILLAGE	MANDAL	Area(Ac)	SURVEY NUMBER
1	PENIMILLA TANDA	UPPUNUTHALA	130.0330	90
2	PENIMILLA	UPPUNUTHALA	46.9043	88
3	MYLARAM	UPPUNUTHALA	103.7529	120
4	GATTU THUMMENA	BALMOOR	104.9384	307/1
5	INOLE	ACHAMPET	305.4290	171
6	YEDULA	GOPALPET	108.8724	122, 125, 126, 127, 128, 129
			<b>799.9300</b>	


- c. This Project proposal **doesn't involve any places of historical, religious, archaeological, recreational importance.**
- d. **Booklets:Furnished for Achampet Forest division.** The proposals are furnished in F(c) Act, 1980 format .
- e. The diversion of forest land shall not be used for any other purpose other than specified in the proposal i.e., for the purpose of PalamuruRangareddy Lift Irrigation Scheme.
- f. **The required check slips as per Forest (Conservation) Act, 1980 are furnished as follows:**
- Annexure – I along with Part-I,II,III,IV and V in both F©Act,1980 and W(P)Act,1972 formats.
  - Undertaking for depositing funds towards raising & maintenance of Compensatory afforestation ((including raising and maintenance of plantations, aided natural regeneration, SMC works etc.)
  - Undertaking for depositing funds towards payment of Net Present Value (NPV) and Additional NPV.
  - Undertaking for depositing funds towards payment of extraction of tree growth.
  - Certificate of Area Minimum.
  - Detailed statement requirement of forest land.
  - Map in SI sheet showing the forest land.
  - ETS & DGPS/GNSS survey data and maps for forest land proposed for diversion as well as CA land.
  - Certificate for non-violation of Forest (Conservation) Act, 1980.
  - Proforma Site inspection certificate to be given by Divisional Forest Officer
  - Proforma Certificate for not affecting historical, religious, archaeological, recreational importance including wildlife sanctuary and National Park to be given by Divisional Forest Officer.



- xii. Proforma Certificate of proposed compensatory afforestation land in a compact block and is located in close proximity under Section-IV of AP Forest Act, 1967 and also site suitability certificate for raising the CA to be given by Divisional Forest Officer.
- xiii. Proforma Certificate for non-violation of Forest (Conservation) Act, 1980 to be given by Divisional Forest Officer
- xiv. Proforma Certificate for soil suitability for compensatory afforestation to be given by Divisional Forest Officer
- xv. Proforma Certificate that the non-forest land has not been proposed in any other project of this department for compensatory afforestation in lieu of Reserved Forest area which is diverted in the proposals to be given by M.R.O.
- xvi. Proforma Certificate of proposal for quantifying the extent of land with all particulars free from any en-conference, encroachment and cultivation to be given by M.R.O.
- xvii. Proforma Undertaking to be given by the District Collectors "that the non-forest CA lands identified will be transferred and mutated in favor of the Forest Department upon receipt of the Stage-I approval" along with non-encumbrance certificate.

  
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